

# Claims

- [c1] A system for monitoring the performance of the cable modem upstream and downstream channels on a cable network, the system comprising:
- A cable modem or cable modem status monitoring transponder;
  - A cable network equipped with a cable modem termination system (CMTS) that is connected to the Internet or private network; and
  - A central computer or computers for remotely monitoring performance;
- [c2] The cable modem or cable modem status monitoring transponder in Claim 1 equipped with software to continuously monitor and test the upstream and downstream channels for lost packets by using a string of ping packets destined for the CMTS or other router.
- [c3] The cable modem or cable modem status monitoring transponder in Claim 1 equipped with software to continuously monitor and test the upstream channel for lost packets by using a string of ping packets destined for the CMTS or other router, and means to isolate the lost packets to only the upstream path.

- [c4] The cable modem or cable modem status monitoring transponder in Claim 1 equipped with software to continuously monitor and test the downstream channel for Modulation Error Ratio (MER), Signal to Noise Ratio (SNR), Bit Error Rate (BER) and/or carrier level.
- [c5] The cable modem or cable modem status monitoring transponder in Claim 2, Claim 3 or Claim 4 equipped with software to transmit the results of upstream and/or downstream tests continuously to the central computer or computers in Claim 1 over the cable network equipped with a cable modem termination system connected to the internet or private network in Claim 1.
- [c6] The cable modem or cable modem status monitoring transponder in Claim 1 equipped with software to continuously compare the results of upstream and/or downstream tests in Claim 2, Claim 3 and Claim 4 to pre-defined limits and transmit alarm conditions and/or measurement results when alarm conditions are exceeded to the computer or computers in Claim 1 over the cable network equipped with a cable modem termination system connected to the internet or private network in Claim 1.
- [c7] The central computer or computers in Claim 1 that con-

tain software to receive the upstream and downstream measurement results from the cable modem or cable modem status monitoring transponder in Claim 5.

[c8] The central computer or computers in Claim 1 that contain software to receive the upstream and downstream alarm conditions and/or measurement results from the cable modem or cable modem status monitoring transponder in Claim 6.